

***Remarks***

Reconsideration of this Application is respectfully requested.

Upon entry of the foregoing amendment, claims 32 and 34-53 are pending in the application, with claims 32, 34, 40, 43, and 51 being the independent claims. Claims 1-31 and 33 were previously cancelled. Claim 34 is currently amended. These changes are believed to introduce no new matter, and their entry is respectfully requested.

Based on the above amendment and the following remarks, Applicant respectfully requests that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

***Allowed Claim***

Applicant acknowledges with gratitude the Examiner's allowance of claim 32.

***Allowable Claims***

In section 7 of the Office Action, claims 34-39 were indicated to be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. § 112, second paragraph. Independent claim 34 has been amended accordingly. Thus, Applicant respectfully requests that independent claim 34 and claims 35-39, which depend from independent claim 34, be passed to allowance.

***Rejections under 35 U.S.C. § 112, first paragraph***

**Claims 40-53**

In section 4 of the Office Action, claims 40-53 were rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description

requirement. Applicant respectfully traverses this rejection, and requests that it be withdrawn.

The Examiner alleges that there is no support in the original specification for the following features: *"storing at least one first user unique parameter corresponding with a first carrier frequency"* and *"storing at least one second user unique parameter corresponding with a second carrier frequency that is different from the first carrier frequency,"* as recited in claims 40-42; *"wherein the at least one first user unique parameter includes at least one selected from the group consisting of a transmit power level, fine frequency tuning information, timing information, and transmit equalization information,"* as recited in claim 41; *"allocating a wide-band channel for transmission of relatively long packets, allocating a narrow-band channel for transmission of relatively short packets, and transmitting a data packet having a data packet length using either the wide-band,"* as recited in claims 43-50; and *"allocating a first carrier frequency for communication of comparatively short packets using a comparatively low symbol rate"* and *"allocating a second carrier frequency that is different from the first carrier frequency for communication of comparatively long packets using a comparatively high symbol rate,"* as recited in claims 51-53. However, Applicant respectfully disagrees.

The Federal Circuit has stated that the fundamental factual inquiry for determining compliance with the written description requirement is "whether the specification conveys with reasonable clarity to those skilled in the art that, as of the filing date sought, applicant was in possession of the invention as now claimed."

M.P.E.P. § 2163.02, citing *Vas-Cath, Inc. v. Mahurkar*, 19 U.S.P.Q.2d 1111, 1117 (Fed. Cir. 1991). Possession may be shown by showing that the invention was "ready for

patenting," for example, by describing distinguishing identifying characteristics sufficient to show that the applicant was in possession of the claimed invention.

M.P.E.P. § 2163.02, *citing Pfaff v. Wells Elecs., Inc.*, 525 U.S. 55, 68, 48 U.S.P.Q.2d 1641, 1647 (1998).

Applicant asserts that the specification conveys with reasonable clarity to those skilled in the art that, as of the filing date sought, applicant was in possession of the invention as now claimed, including the features "*storing at least one first user unique parameter corresponding with a first carrier frequency*" and "*storing at least one second user unique parameter corresponding with a second carrier frequency that is different from the first carrier frequency*," as recited in claims 40-42. M.P.E.P. § 2163.02. For example, the specification at page 13, lines 4-7, 10-13, and 28-31; page 16, line 33 - page 17, line 1; and page 25, lines 33-35 describes these features sufficient to show that Applicant was in possession of these features. M.P.E.P. § 2163.02.

As described in the specification, a conventional cable modem stores one set of user unique parameters and ranges on a single carrier frequency or channel. However, in accordance with embodiments of the present invention, a cable modem is capable of ranging on two or more carrier frequencies or channels at the same time by storing more than one set of user unique parameters. *See, e.g.*, page 2, lines 6-14; page 13, lines 28-31; and page 16, line 33 - page 17, line 1 of the specification. A person of ordinary skill in the art would clearly recognize that different stored sets of user unique parameters correspond with respective different carrier frequencies. For example, a first stored set of user unique parameters corresponds with a first carrier frequency and a second stored set of user unique parameters corresponds with a second carrier frequency that is

different from the first carrier frequency. Thus, Applicant asserts that the specification describes distinguishing identifying characteristics sufficient to show that, as of the filing date sought, Applicant was in possession of "*storing at least one first user unique parameter corresponding with a first carrier frequency*" and "*storing at least one second user unique parameter corresponding with a second carrier frequency that is different from the first carrier frequency*," as recited in claims 40-42.

Applicant further asserts that the specification conveys with reasonable clarity to those skilled in the art that, as of the filing date sought, applicant was in possession of the feature "*wherein the at least one first user unique parameter includes at least one selected from the group consisting of a transmit power level, fine frequency tuning information, timing information, and transmit equalization information*," as recited in claim 41. M.P.E.P. § 2163.02. For example, the specification at page 13, lines 10-13 and 29-33 and page 14, lines 12-21 describes distinguishing identifying characteristics sufficient to show that Applicant was in possession of this feature. M.P.E.P. § 2163.02.

For instance, the specification states at page 13, lines 10-11 that 'user unique' parameters include power level. Lines 29-31 of page 13 mention frequency fine tuning in addition to power level. Lines 12-21 of page 14 mention timing and transmitter equalization in addition to power level and fine frequency. Thus, Applicant asserts that the specification describes distinguishing identifying characteristics sufficient to show that, as of the filing date sought, Applicant was in possession of "*wherein the at least one first user unique parameter includes at least one selected from the group consisting of a transmit power level, fine frequency tuning information, timing information, and transmit equalization information*," as recited in claim 41.

Applicant asserts that the specification conveys with reasonable clarity to those skilled in the art that, as of the filing date sought, applicant was in possession of the features "*allocating a wide-band channel for transmission of relatively long packets, allocating a narrow-band channel for transmission of relatively short packets, and transmitting a data packet having a data packet length using either the wide-band,*" as recited in claims 43-50. M.P.E.P. § 2163.02. For example, the specification at page 14, line 32 - page 15, line 2 and page 25, lines 33-35 describes distinguishing identifying characteristics sufficient to show that Applicant was in possession of these features. M.P.E.P. § 2163.02.

As described in the specification, a conventional cable modem is always dedicated to either a wideband channel with its high data rate burst advantage, or a to a narrowband channel with its robustness in impulse noise for short packets. The conventional cable modem cannot take advantage both of these desirable features. However, in accordance with embodiments of the present invention, a cable modem is capable of transmitting long packets and short packets on separate carrier frequencies, with high and low symbol rates (bandwidths), respectively. *See, e.g.,* page 14, line 28 - page 15, line 2 of the specification. For instance, a headend may grant short data packets to a carrier using a narrow channel, and longer data packets to another carrier using a wide channel. *See, e.g.,* page 25, lines 33-35 of the specification. Thus, Applicant asserts that the specification describes distinguishing identifying characteristics sufficient to show that, as of the filing date sought, Applicant was in possession of "*allocating a wide-band channel for transmission of relatively long packets, allocating a narrow-band*

*channel for transmission of relatively short packets, and transmitting a data packet having a data packet length using either the wide-band," as recited in claims 43-50.*

Applicant asserts that the specification conveys with reasonable clarity to those skilled in the art that, as of the filing date sought, applicant was in possession of the features "*allocating a first carrier frequency for communication of comparatively short packets using a comparatively low symbol rate*" and "*allocating a second carrier frequency that is different from the first carrier frequency for communication of comparatively long packets using a comparatively high symbol rate*," as recited in claims 51-53. M.P.E.P. § 2163.02. For example, the specification at page 14, line 32 - page 15, line 2 and page 25, lines 33-35 describes distinguishing identifying characteristics sufficient to show that Applicant was in possession of these features. M.P.E.P. § 2163.02.

For at least reasons similar to those set forth above with respect to the features recited in claims 43-50, Applicant asserts that specification satisfies the written description requirement of 35 U.S.C. § 112, first paragraph, with respect to the features "*allocating a first carrier frequency for communication of comparatively short packets using a comparatively low symbol rate*" and "*allocating a second carrier frequency that is different from the first carrier frequency for communication of comparatively long packets using a comparatively high symbol rate*," as recited in claims 51-53.

Therefore, Applicant respectfully requests reconsideration and withdrawal of the rejection of claims 40-53.

***Rejections under 35 U.S.C. § 112, second paragraph***

**Claims 34-49**

In section 5 of the Office Action, claims 34-49 were rejected under 35 U.S.C. § 112, second paragraph, as being allegedly indefinite. Applicant respectfully traverses this rejection, and requests that it be withdrawn.

The Examiner alleges that the claimed invention does not tie to any technological art. However, Applicant respectfully disagrees. As stated in the preamble of independent claim 34, the claimed invention ties to the technological art of a communication system. Accordingly, Applicant asserts that independent claim 34 and claims 35-39, which depend from independent claim 34, clearly tie to a technological art.

The Examiner further alleges that the claimed invention is so broad that it encompasses every possible system to include IEEE 802.16, IEEE 802.14, and future DOCSIS systems. However, the M.P.E.P. specifically states that breadth of a claim is not to be equated with indefiniteness. M.P.E.P. 2173.04, *citing In re Miller*, 169 U.S.P.Q. 597 (CCPA 1971). Instead, the M.P.E.P. provides the following guidance: "If the scope of the subject matter embraced by the claims is clear, and if applicants have not otherwise indicated that they intend the invention to be of a scope different from that defined in the claims, then the claims comply with 35 U.S.C. 112, second paragraph." *Id.*

Applicant asserts that the scope of the subject matter embraced by claims 34-39 is clear. It should be noted that "the essential inquiry pertaining to this requirement is whether the claims set out and circumscribe a particular subject matter with a *reasonable degree of clarity* and particularity." M.P.E.P. 2173.02 (*emphasis added*). Moreover,

[d]efiniteness of claim language must be analyzed, not in a vacuum, but in light of: (A) the content of the present application disclosure, (B) the teachings of the prior art, and (C) the claim interpretation that would be given by one possessing the ordinary level of skill in the pertinent art at the time the invention was made.

Id.

Accordingly, Applicant asserts that the phrase "communication system" and the other language in claims 34-39 are reasonably clear, such that claims 34-39 apprise one of ordinary skill in the art of their scope and, therefore, serve the notice function required by 35 U.S.C. § 112, second paragraph, by providing clear warning to others as to what constitutes infringement of the patent. *See* M.P.E.P. 2173.02, *citing Solomon v. Kimberly-Clark Corp.*, 55 U.S.P.Q.2d 1279, 1283 (Fed. Cir. 2000).

Furthermore, Applicant has not otherwise indicated that he intends the invention to be of a scope different from that defined in the claims.

For at least these reasons, claims 34-39 comply with 35 U.S.C. § 112, second paragraph.

The Examiner contends that the claimed invention eliminates an essential step of receiving a MAP message from the headend or sending a request for ranging on multiple channels to amount to a gap between the steps. However, Applicant respectfully disagrees. Nevertheless, without acquiescing to the propriety of this rejection, Applicant, for the purpose of expediting prosecution, has amended independent claim 34 to include the feature of receiving a grant. In light of this amendment, Applicant believes this rejection of claims 34-39 has been accommodated or rendered moot.

Therefore, Applicant respectfully requests reconsideration and withdrawal of the rejection of claims 34-39.



***Objections to the Specification***

In section 3 of the Office Action, the Examiner objected to the specification because it allegedly fails to provide proper antecedent basis for the claimed subject matter. Specifically, the Examiner requires that the specification must fully disclose the following claim features: *"storing at least one first user unique parameter corresponding with a first carrier frequency"* and *"storing at least one second user unique parameter corresponding with a second carrier frequency that is different from the first carrier frequency,"* as recited in claims 40-42; *"wherein the at least one first user unique parameter includes at least one selected from the group consisting of a transmit power level, fine frequency tuning information, timing information, and transmit equalization information,"* as recited in claim 41; *"allocating a wide-band channel for transmission of relatively long packets, allocating a narrow-band channel for transmission of relatively short packets, and transmitting a data packet having a data packet length using either the wide-band,"* as recited in claims 43-50; and *"allocating a first carrier frequency for communication of comparatively short packets using a comparatively low symbol rate"* and *"allocating a second carrier frequency that is different from the first carrier frequency for communication of comparatively long packets using a comparatively high symbol rate,"* as recited in claims 51-53.

However, for at least reasons similar to those set forth above with respect to the rejection under 35 U.S.C. § 112, first paragraph, Applicant asserts that the specification fully discloses these features.

Thus, Applicant respectfully requests that the objections to the specification be reconsidered and withdrawn

***Objections to the Drawings***

In section 2 of the Office Action, the Examiner objected to the drawings because the drawings allegedly do not show every feature of the invention specified in the claims. Specifically, the Examiner stated that the following must be shown or the feature(s) canceled from the claim(s): *"storing at least one first user unique parameter corresponding with a first carrier frequency"* and *"storing at least one second user unique parameter corresponding with a second carrier frequency that is different from the first carrier frequency,"* as recited in claims 40-42; *"wherein the at least one first user unique parameter includes at least one selected from the group consisting of a transmit power level, fine frequency tuning information, timing information, and transmit equalization information,"* as recited in claim 41; *"allocating a wide-band channel for transmission of relatively long packets, allocating a narrow-band channel for transmission of relatively short packets, and transmitting a data packet having a data packet length using either the wide-band,"* as recited in claims 43-50; and *"allocating a first carrier frequency for communication of comparatively short packets using a comparatively low symbol rate"* and *"allocating a second carrier frequency that is different from the first carrier frequency for communication of comparatively long packets using a comparatively high symbol rate,"* as recited in claims 51-53.

Applicant respectfully submits four (4) new drawing sheets herewith, showing the features required by the Examiner. This amendment is consistent with the discussion

above concerning the rejection under 35 U.S.C. § 112, first paragraph, and the objections to the specification. More specifically, the first new drawing sheet (i.e., FIG. 14) shows *"storing at least one first user unique parameter corresponding with a first carrier frequency"* and *"storing at least one second user unique parameter corresponding with a second carrier frequency that is different from the first carrier frequency,"* as recited in claims 40-42. Support for FIG. 14 may be found, for example, at page 13, lines 4-7, 10-13, and 28-31; page 16, line 33 - page 17, line 1; and page 25, lines 33-35 of the specification. Accordingly, FIG. 14 introduces no new matter.

The second new drawing sheet (i.e., FIG. 15) shows *"wherein the at least one first user unique parameter includes at least one selected from the group consisting of a transmit power level, fine frequency tuning information, timing information, and transmit equalization information,"* as recited in claim 41. Support for FIG. 15 may be found, for example, at page 13, lines 10-13 and 29-33 and page 14, lines 12-21 of the specification. Accordingly, FIG. 15 introduces no new matter.

The third new drawing sheet (i.e., FIG. 16) shows *"allocating a wide-band channel for transmission of relatively long packets, allocating a narrow-band channel for transmission of relatively short packets, and transmitting a data packet having a data packet length using either the wide-band,"* as recited in claims 43-50. Support for FIG. 16 may be found, for example, at page 14, line 32 - page 15, line 2 and page 25, lines 33-35 of the specification. Accordingly, FIG. 16 introduces no new matter.

The fourth new drawing sheet (i.e., FIG. 17) shows *"allocating a first carrier frequency for communication of comparatively short packets using a comparatively low symbol rate"* and *"allocating a second carrier frequency that is different from the first*

*carrier frequency for communication of comparatively long packets using a comparatively high symbol rate,"* as recited in claims 51-53. Support for FIG. 17 may be found, for example, at page 14, line 32 - page 15, line 2 and page 25, lines 33-35 of the specification. Accordingly, FIG. 17 introduces no new matter.

Thus, Applicant respectfully requests that the objections to the drawings be reconsidered and withdrawn

***Information Disclosure Statement***

Applicant acknowledges with appreciation the Examiner's consideration of the document listed on the Form PTO-1449 that accompanied the First Supplemental Information Disclosure Statement filed on November 3, 2006.

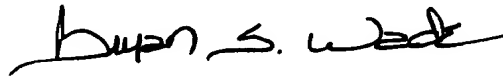
***Conclusion***

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicant believes that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

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